

XVI. *The Butterflies of Chile.* By HENRY JOHN ELWES, F.R.S., F.L.S., etc.

[Read June 4th, 1902.]

PLATES XII, XIII, XIV, AND XV.

OUR present knowledge of the butterflies of Chile consists almost entirely of bare descriptions published by authors who had little knowledge of the country or of the climatic conditions which have tended to make the fauna of this country so interesting and peculiar.

Guérin in the 'Voyage de la Coquille,' published in 1832, was the first entomologist who seems to have received any butterflies from Chile, except a few of the very commonest, which *Molina*, *Drury*, and *Hübner* had already described.

Blanchard in *Gay's* 'Fauna Chilena,' published in 1852, has described and figured more of the commoner ones.

Philippi has described others in 'Linnæa Entomologica' in 1860, but though an excellent botanist he has paid little attention to the Lepidoptera of his adopted country.

Reed, an English naturalist long resident in Chile, published in 1877 a small work in Spanish, 'Mariposas Chilenas,' with indifferent figures and descriptions of several of the rarer ones, but gives little information as to their habits and distribution.

Wallengren in the 'Wiener Ent. Monatschrift,' and 'Eugenie's Resa,' and *Felder* in the 'Reise der Novara,' add a few more to the list, but the first serious attempt at a Catalogue of the Lepidoptera of Chile was that by *Butler* in this Society's Transactions for 1881.

This paper was based on a collection made in Chile by Mr. Thomas Edmonds, and describes a good many new or supposed new species, giving a full synonymy of those already described, with some useful but rather fragmentary notes by Mr. Edmonds on the localities in which they were found.

A translation of this paper into Spanish, with a list of the Microlepidoptera of Chile described by *Ragonot* and *Zeller*, was published by Mr. Bartlett Calvert, a member

of our Society, in the 'Anales de la Universidad de Chile' in 1895.

None of these writers, however, have told us much of the nature of the country which produces these insects, or described the very peculiar geographical and physical conditions which have influenced their variation and distribution, and no one has realized the great amount of variation which is found in many of the species. Therefore in attempting to give a better idea of the Butterflies of Chile, I have had to rely mainly on my own observations.

I left England in November 1901, and arrived at Buenos Ayres on December 2nd. Here I endeavoured to find a companion who knew the language, and who had travelled in the Southern Andes, which until quite recently have been unvisited and undescribed by naturalists. I arranged with Mr. Arneberg, a Swedish engineer, naturalized in Argentina, to accompany and assist me, but when I reached Santiago de Chile, I found that the strained political relations between Chile and Argentina, which very nearly led to war, and which delayed my start for over a month, made it undesirable to carry out this plan, and I eventually secured the companionship and assistance of Mr. Bartlett Calvert of Quillota, who speaks Spanish like a native, and who is a well-known entomologist and an accomplished photographer.

I arrived at Puente del Inca, to which point the Transandine railway is now open, on December 10th, and stayed two nights in the excellent hotel which belongs to Dr. Cotton, and which stands close to the celebrated Natural Bridge and warm baths, at an elevation of over 9000 feet. Here I was able to gain some idea of the flora and butterflies of the high Andes, though the weather was extremely dry, and the high wind from the west, which is a daily feature of this locality after nine a.m., makes collecting difficult.

I found at the entrance to the valley called Horcones, and round the Laguna de Horcones, a few very interesting species, including *Scolitantides andina*, a *Colias* which I thought at the time was near *euxanthe*, Feld., *Argynnis lathonioides*, and *Phulia nymphula*, all of which are peculiar to the high Andes of Chile and Bolivia.

I was unfortunate enough to lose the bag which contained most of these specimens when starting in the dark the next morning to cross the pass into Chile, but I saw

enough to convince me that the environs of Puente del Inca are well worth a week's stay in January by a passing entomologist, and that a few of the species described by Staudinger, in *Iris* Vol. vii, from the Bolivian Andes would probably be found here. The pass between Puente del Inca and Chile is over 12,000 feet, but very easy to cross on mule-back except for three or four months in winter, and the vegetation of the Chilean side from 10,000 down to about 6000 feet is much richer than that of the eastern valleys. Juncal, where there is a comfortable inn kept by a Frenchman, would also be a desirable halting-place for any one who wished to collect on the western side of the pass. I was obliged, however, to hurry on, and could do little in the way of collecting on this occasion. When I returned at the end of February the season was far advanced, and I was again unable to stop as I had to catch the steamer at Buenos Ayres. From Juncal a good carriage road leads down to Salto de Soldado, whence there is a railway connecting at Los Andes with the Chilean state railway to Valparaiso and Santiago, making it possible to go in one day as I did from Puente del Inca to Santiago.

In this beautiful city I met with the greatest hospitality and civility from many men of science and distinction, among whom I should especially mention Prof. Federigo Philippi, the director of the Museum, a most distinguished botanist, whose father, the describer of so many Chilean plants, still enjoys life at the age of ninety; Dr. Barros the Rector of the University, who was kind enough to give me an introduction to a family from whom I afterwards received the greatest possible kindness and help; and Señor Dr. Vicente Isquierdo, who has the most complete collection of Lepidoptera in Chile, and who has been good enough to send some of them to the British Museum for identification. The brother of the latter, Señor Salvador Isquierdo of Santa Ines, has a large and most interesting collection of trees, and is developing the rising fruit-growing industry in Chile in a manner worthy of the best European horticulturists. Señora Ana de Jordan, the hostess of Miss North, was kindness itself, and, like many of the members of the old Chilean families, gave me a charming idea of the state to which progress and civilization have reached in her delightful and to most Europeans little-known country.

Whilst waiting until the question of peace or war should be settled I visited the Baños de Cauquenes, a well-known

watering-place in a valley three hours south of Santiago by rail, which has been described by Miss North, by Mr. Ball, and by Darwin. Here I stayed four days and collected all the species which were then out, but failed in an attempt to reach the highest part of the valley, where there is said to be good collecting ground at 5000 to 6000 feet. This valley, however, is well known in comparison with the mountains I afterwards visited farther south, and has been visited by Reed and others. The country around was dried up, hot and windy, and the variety of insects not great, though I got one species which seems to be undescribed.

I then went by rail to Concepcion on the coast, three hundred miles south of Santiago, and visited the beautiful park and gardens of the late Señora Cousinho at Lota, where Mr. O'Reilly, the superintendent of the gardens and plantations, was good enough to show me everything he could. I found few butterflies, however, in this neighbourhood though there is some very good-looking collecting ground near Coronel, and some trees and shrubs characteristic of Southern Chile, which do not occur much farther north, are found on this part of the coast.

On December 21st I left Concepcion by train, and got to Chillan by 11 o'clock. From here there is a carriage road to the celebrated Baths of Chillan situated in a wooded valley of the Andes about sixty miles distant. Starting in the afternoon in a carriage, I reached the second stage of the journey at dark, and slept in a fair roadside inn. From here the road to the Baths passes through a country which was once covered with forest, and is still in many parts most beautifully wooded, the last stage from Las Trancas to the Baths being specially fine, through splendid forests of beech, of which three or four different species constitute the principal forest trees in this latitude.

At the Baths I found excellent accommodation and a rich flora. This was Mr. Edmonds' best collecting ground, and during January and February most of the peculiar Chilean forest species may be found in the woods below the Baths, and many of the Alpine species on the bare mountains above them. I spent four days here, and got the greater part of the species found by Edmonds, though I was too early for two or three of the rarest. The snow still lay at an elevation of 6000 to 7000 feet in shady places near the Baths, and the weather, which had been wet

previously, was fine and hot, though, as usual in the Andes at this season, very windy in the afternoon.

On December 28th I returned to Santiago to make arrangements for my journey to the south, and as our Minister, Sir B. Cusack Smith, advised me not to take an Argentine subject as my companion, I went to Quillota, where I arranged with Mr. Calvert to meet me as soon as he could get away on January 9th. Quillota has been so well described by Darwin* that I need say nothing of it. There is no good collecting ground within four or five hours' ride, but I got a few specimens here and at Llai-llai, the junction between the lines to Santiago and Valparaiso. Mr. Paulsen, who lives at Quillota, and Mr. Calvert have both collected here, especially Coleoptera, and the latter showed me a very nice collection mainly of Coleoptera.

Leaving Santiago on January 3rd, I slept at San Rosendo, where the line to what is called "la Frontera" diverges from the line to Concepcion and Lota. Here I had only a morning in which to sample the environs, and next day reached Victoria, a large new town to which most of the live stock raised in the frontier districts of Argentina comes over the Lonquimay Pass to market. Most of the country round here has been cleared of forest near the railway, but at Temuco further south, and at Tolten which was then the terminus of the line now being extended to Valdivia, I found the virgin forest which covers the greater part of Chile south of the Biobio river, and soon became convinced that, though the moths might afford a rich harvest to a resident collector, the south of Chile, like the centre, is, away from the mountains, very poor in diurnal Lepidoptera. Returning to Victoria I engaged a German and a Chilean as servants for my Andean journey, and went on by a branch line to Mulchen, whence I drove twenty miles east through a country recently cleared of forest to the hacienda of San Ignacio, the property of Señora Bussey, who received me with the greatest hospitality, and to whose husband, George Bussey, Esq., I am indebted for invaluable assistance in engaging reliable men and mules for my journey. Whilst these were being brought in I collected in the neighbourhood, but found that though the valley of the Renaico river, near which the hacienda is situated, is mostly virgin forest with the rich evergreen

* Darwin's 'Journal,' New Edition, Murray, 1890, pp. 269-286.

vegetation peculiar to Southern Chile, very few butterflies, and those the same as I had previously taken, were to be found. Moths, however, are abundant at light, and a good many were collected. San Ignacio lies some little way from the foot of the Pemehue Mountains, which constitute an outlying group on the west of the Biobio Valley, and the country round the hacienda is now mainly under wheat cultivation.

I was here delayed more than a week by a sudden and severe attack of illness, from which I was fortunate enough to be cured by the medical skill of Señora Bussey's brother, Dr. Puelma, and was nursed with as much care and attention as if I had been at home. I cannot speak too gratefully of the kindness and hospitality of this charming family, who, like many of the upper-class Chileans, are, though living in a country only recently conquered from the Indians, as civilized and well educated as any people in Europe.

I was at last able to make a start on January 22nd, a month later than I had hoped to do, and rode in two days up the valley of the Renaico river through a beautiful country mostly covered with virgin forest, and then over the Sierra de Pemehue to Lolco, a hacienda belonging to Señor Manuel Puelma, another brother of Señora Bussey's. This is a beautiful place near the Biobio river, and near it I got some of the best insects I found on my journey. No one except Mr. Calvert had ever collected Lepidoptera on this road before, and if I had not been so pressed for time I should have stayed longer.

On January 27th we started early from Lolco on a very cold morning, and rode first through grassy valleys which reminded one of Mongolia, and splendid araucaria and beech forests, over a very striking pass about 8000 feet high, to Lonquimay, which is the Chilean outpost and custom-house, on the main road from Victoria to Argentina, and from here in one and a half days up the head-waters of the Biobio we reached the Argentine frontier, which is an open bare ridge about 5000 feet high, and not the least like the northern passes over the Andes, the higher mountains in this latitude being isolated volcanoes, which lie well to the westward of the watershed. Close to the pass is an outpost of Argentine cavalry at Los Arcos, where I was civilly received by the lieutenant in command, and from here we turned more to the southward, and reached

the beautiful Lake of Aluminé, one of the long line of lakes which are found mostly on the east side of the watershed, and which form the head-waters of many rivers, some of which run to the Pacific and some to the Rio Negro, and which are in the frontier region, of which parts were in dispute. This country has been described by Señor Moreno.* From here my route southwards for three weeks lay through Argentine territory, but I soon realized that there is no well-marked natural boundary between Chile and Argentina in this latitude, and that the influence of the rainfall, which rapidly becomes less when the watershed is crossed, is the real factor in determining the boundary between the wet sub-evergreen forest which clothes the western slopes of the mountains, and the dry grassy hills and valleys on the east, which gradually fall away into the great arid pampas of Patagonia that now form part of the Argentine territory of Neuquen.

It also became evident that nearly all the mountain and forest species of butterflies which hitherto have been considered peculiar to Chile occur in Argentine territory as well, and that there are few species peculiar to the pampas in the country which I passed through.

On reaching Lake Quillen in lat. 41° S. I made an attempt to re-cross into Chile by a track which formerly existed through the forest to Villarica, but it had become so much blocked by fallen trees that we could not get through, and after two days in the forest I turned south from Lake Quillen, crossing a pass over a lateral ridge about 6000 feet high to Junin de Los Andes, where an attempt has been made to found a frontier town in a very sparsely inhabited but fine cattle-ranching country. Up till now the weather had been splendid, too hot for comfort in the middle of the day, when high wind from the south usually prevailed, but now we had a spell of bad weather which very much hindered my collecting. At San Martin on Lake Lacar we found a military settlement commanded by Col. Perez, from whom, as well as from the other officers of the 3rd Argentine Cavalry, we had a most hospitable reception. This would be a good collecting station, as, though the elevation is under 3000 feet, there is a heavy snowfall in winter and a rich forest vegetation on the shores of the lake, whilst a range of mountains about 7500 feet high,

* Notes préliminaires sur une excursion aux territoires du Neuquen Rio Negro, etc., de Francisco P. Moreno. Musée de la Plata, 1898.

and wooded up to about 6000 feet, which is the approximate timber-line in this latitude, is within a ride of the town. Here I got a good Indian guide, and left on February 8th, intending to reach the great Lake Nahuelhuapi, which is the largest of all the lakes on this part of the frontier.

Our route through the mountains was extremely interesting and picturesque on account of the extraordinary volcanic rock formations which occur in these valleys, but the heavy rain which came on soon after leaving San Martin swelled the numerous mountain streams to an extent which made some of them difficult and dangerous to ford with loaded mules.

From San Martin to Nahuelhuapi I was able to do but little insect collecting, having long marches and broken weather, but the few butterflies which I saw showed that there was not much change in the fauna, and the country began to assume an autumnal appearance. At the point where the great river Limay runs out of Lake Nahuelhuapi, I found a ranch and store kept by a Scotchman named Neil, who is in partnership with Mr. Jones, one of the earliest and principal ranch owners of the district; here I sold my mules and horses, and had intended to take a boat and follow the river Limay down to its confluence with the Rio Negro, about five days' journey by river and then by rail to Buenos Ayres. But I heard such good accounts of the pass into Chile which is called the pass of Perez Rosales that I gave up the idea of returning by this route, and went on to a settlement called San Carlos, founded by the German firm of Hube and Achelis, which is on the south shore of Lake Nahuelhuapi. From here there is a regular route to Puerto Montt by small steamers on the lakes of Nahuelhuapi, Todos Santos, and Llanquihue, which are connected by good mule-roads, and where lodgings can be got in new houses built and managed by this enterprising and obliging firm. Anything more beautiful, interesting, or novel than this route, which can be traversed in about three days, cannot be imagined, and it must some day be the favourite tourist resort of South America.

Though very profitable from a botanical point of view, I was too much pressed for time to be able to add much to my entomological collections on this part of the trip, and after being delayed a day on Lake Llanquihue, only arrived at Puerto Montt just in time to catch the steamer to Con-

ception, whence I had to hurry back to Santiago, and after packing and drying my botanical collection, part of which had been left at the museum in charge of Dr. Philippi, I re-crossed the Andes by the Mendoza Pass, and reached Buenos Ayres in time to catch the mail steamer on March 1st.

Before giving a list of the butterflies I collected, which include almost all the species hitherto described from Chile, I must say a few words as to the climate of different parts of the country. From a naturalist's point of view Chile may be divided into three regions.

First, Northern Chile, which consists of the long strip of country comprising the provinces of Tacna, Tarapaca, Antofagasta, Atacama and Coquimbo, from 18° to 32° S., between the sea and the Andes, about which I know nothing personally. It includes the nitrate districts which are absolutely arid, and most of the best mining districts; and from a zoologist's point of view is poor, on account of the very slight rainfall and absence of vegetation, except in the valleys of the few perennial streams and tracts which are cultivated solely by means of irrigation. It includes a great tract of high mountains in the district of Antofagasta and Tarapaca, which are, as far as I can learn, almost if not entirely destitute of trees, and which have therefore afforded no route by which tropical forms could extend from the north, as they might have been expected to do if the country had not been too dry.

Secondly, the coast region and valleys of Central Chile from about lat. 32° down to about the latitude of Concepcion and the river Biobio. This part of Chile has a climate much like that of Southern Spain, damper on the coast and drier in the great central valley between the coast range and the Andes, and is the most populous and richest part of Chile from an agricultural point of view, being fertilized by the deposit from numerous mountain streams which are made to irrigate large tracts of highly fertile country. Forest is now found in Central Chile only at and above elevations of 3000 to 6000 feet, and in the upper parts of the Andean valleys; and I doubt whether there was ever much true forest in the neighbourhood of Santiago, where the hills are covered with shrubs and thorny bushes, and where rain usually falls only during twenty to thirty days in winter.

In the latitude of Chillan heavy forest is found, or rather was found until it was destroyed by fire, along the foot and on

the outer valleys of the Andes, but on the coast there is much brushwood, and in narrow gorges and valleys some timber, though the plains are still very dry. South of the Biobio the climate changes very suddenly, and when Valdivia is reached the rainfall is so great that the country is covered with a forest so dense that one can hardly penetrate it; where ferns grow twelve feet high, and a bamboo-like grass climbs the trees to a height of forty feet.* Inland, however, there is some open savannah and marshy country at the foot of the volcanoes, south of Lake Llanquihue.

This region has a few peculiar Satyridæ and Hesperidæ, but is extremely poor in diurnal Lepidoptera, though very little collecting has been done except about Valdivia and La Union.

Lastly, I take the region south of lat. 42° down to the Straits of Magellan, which is familiar to us from the writings of Darwin, Cunningham, and other naturalists, and which includes a great number of forest-clad islands and unexplored mountains, of which our zoological knowledge at present is very limited. Some parts of the coast are fairly well known to naturalists, and the district lying south of Lake Nahuelhuapi and east of the watershed, which has been described by Moreno and more recently by Prichard,† is beginning to attract colonists, especially at the head-waters of the Chubut river, where there is some good ranching country now occupied by Welsh settlers from the east coast. This region will probably be found to contain many of the species which I found farther north, but the west coast and Straits of Magellan have such a very wet and inclement climate that there can be but few butterflies, and those few nearly allied to or identical with those of Chile and Argentina.

The list of butterflies which follows is based on what is by far the most complete collection of Chilean butterflies ever brought together in Europe, comprising my own collection, that of Mr. Edmonds, which was contained in the British Museum, and Mr. Godman's collection, and the specimens taken by our fellow, Mr. J. J. Walker, R.N., when serving on the coast at Coquimbo, Valparaiso and Concepcion. I have also been able to examine the types of

* See Darwin's 'Journal,' New Edition, Murray, 1890, pp. 318-322.

† Prichard, 'Through the Heart of Patagonia,' London, 1902.

several species described by Mabille, Felder, and Reed, and have added some specimens from the late Mr. Crowley's collection now in the British Museum, where the whole of this material is now placed.

There are, no doubt, in the collections of Mr. Paulsen and Dr. Isquierdo many specimens which would have been invaluable in studying the variation of Chilean butterflies, and perhaps some new species, but as they have had no means of identifying their specimens with the types, which are all in Europe, and I was too ignorant of the Chilean species to make notes of them when I saw them, this list must not be taken as more than an attempt to improve the foundation of what is still very fragmentary and incomplete knowledge.

What is wanted are resident collectors, especially in the south, who will observe the seasonal and local variations, and bring together much larger series than now exist; by which means alone my conclusions as to specific values can be proved or disproved.

It will be seen from this list:—

First, that the number of species is extremely small, being, if the diverse conditions of climate are considered, the smallest found in any country in the world of equal length from north to south.

Secondly, that the number of butterflies which are not endemic in Chile, if the Argentine as well as the Chilean slopes of the Andes are included, is very small.

Thirdly, that the scarcity of Nymphalidæ and Lycoenidæ is extreme; only six species of the former and seven of the latter occurring in this immense tract of country, a smaller number than could be taken in a single day in almost any part of North America, Europe, or the temperate region of Asia. Not a single Lycoenid and only one or two Nymphalid butterflies seem to have been taken south of Valdivia; a case quite unparalleled in other parts of the world.

The Chilean butterflies consist almost entirely of Satyridæ and Hesperiidæ, many of which are confined to the forest region of the centre and south, and there is a marked absence of alpine species; only

- 2 Pierids
- 2 Nymphalids
- 1 Lycoenid, and
- 2 or 3 Satyrids

can be considered as strictly alpine butterflies, though several of the common species of the valleys and forest are found up to, and even above, timber-line. Many of the forest insects seem to be found only where *Chusquea*, a bamboo-like grass, is abundant, but some others, such as *Argyrophorus argenteus*, *Cosmosatyrus leptoneuroides*, and *Neomacnias simplex*, are found on grassy downs and hills, and never enter the forest so far as I observed.

In the arrangement of the Hesperiidæ I have availed myself of Watson's 'Classification' of that group (P. Z. S. 1893, pp. 3-132).

I have not studied the generic characters, as it seemed to me that this could not profitably be done without undertaking a study of the allied species from other parts of S. America.

SATYRIDÆ.

1. *Elina lefebvrei*.

Satyrus lefebvrei, Guérin, Voy. de la Coquille, p. 281 (1829).

S. montrolii, Feisthamel, Mag. Zool., Ms., Pl. 20 (1839).

Lasiommata montrolii, Westwood, Gen. Diurn. Lep., p. 387 (1851).

♀ *Elina montrolii*, Blanchard, in Gay's Fauna Chilena, vii, p. 29, Pl. V, fig. 7 (1852).

A well-known and very distinct species, the largest of the Chilean Satyridæ. I found it common at the Baños de Cauquenes, where it flies in shady woods and settles on the trunks of trees. It was also common at Temuco and near San Ignacio, but I did not see it in the mountains. The southern form is darker than that found at Valparaiso and Quillota.

2. *Elina vanessoides*.

Elina vanessoides, Blanchard, *t. c.*, p. 28, Pl. V, figs. 5, 6.

Also a very distinct species which I did not take myself, but which is common in the neighbourhood of Valdivia.

3. *Elina neomyrioides*. (Plate XIV, fig. 5 ♂.)

♀ *Satyrus neomyrioides*, Blanchard, *t. c.*, p. 33, Pl. II, figs. 6, 7.

I doubt whether this species belongs to the same genus as the last. I took it at San Ignacio in January, and at

Port Blest on Lake Nahuelhuapi in February. I have figured a male of this species as it appears to be undescribed.

4. *Elina calvertii*, n. sp. (Plate XIV, figs. 3 ♂, 4 ♀.)

This species was not uncommon in the forest below the Baños de Chillan in December, when I took five males and one female in fair condition. I also found a single female in the thick forest on Lake Quillen in Argentina on February 3rd; and there is in the British Museum a female taken by Edmonds below the Baths of Chillan, which Butler has mistaken for the female of *neomyrioides* and marked as such. There is a distinct patch of velvety androconia on the fore-wing in this species and the last which is not found in the species of *Elina*, and they are probably not congeneric. The base of the fore-wing below in *E. calvertii* is, like that of *E. edmondsii*, fulvous, which distinguishes it at once from *neomyrioides*, and the lower part of the band on the hind-wing below is also much less defined and does not form a conspicuous white patch on the costa. On the upper-side the band is also much less distinct forward.

5. *Pedaliodes flora*.

♀ *Satyrus flora*, Philippi, Linnæa Entomologica, xiv, p. 267 (1860).

Hipparchia ? *flora*, Butler, Cat. Sat., p. 58 (1868).

Pedaliodes oaxes, id., Cist. Ent., i, p. 25 (1870).

Stibomorpha tristis, id. (nec Guérin), Lep. Exot., p. 180, Pl. LXII, fig. 3 (1874).

Satyrus tristis, Reed, Mon. Marip. Chil., Pl. III, fig. 4 (1877).

Stibomorpha recdi, Reed (nec Butler), t. c. explic. de las laminas, lam. iii, fig. 4 (1877).

Neither in its appearance, habits, nor flight has this species any affinity with *Elina lefebvrei* or with any other species of *Elina* that I observed. I found it abundant in marshes overgrown with reeds, bushes, and great tufts of *Gunnera scabra* on the east shore of Lake Llanquihue, where it was fresh in February. It has a slow flight amongst the rushes and bushes, and is very easy to take. The females differ but little from the males. Edmonds found it common in marshes at Valdivia.

6. *Epinephele edmondsii*.

E. edmondsii, Butler, Trans. Ent. Soc. Lond., 1881,
p. 451, Pl. XXI, fig. 2.

This seems to be a distinct species, which was described from one specimen only, taken near the Baths of Chillan in March by Edmonds. This specimen is in the British Museum, and agrees very closely with two in that collection from Cordoba and two from Uruguay sent by Berg to Zeller.

7. *Epinephele janirioides*.

E. janirioides, Blanchard, *t. c.*, p. 34, Pl. II, fig. 8 ♀.

Satyrus limonias, Philippi, *t. c.*, p. 268 ♂; Reed, *t. c.*,
Pl. II, fig. 7.

Var. *Epinephele dryas*, Felder, Reise der Nov. Lep.,
iii, p. 492 (1867).

This was common at the Baños de Cauquenes on dry hill-sides covered with bushes from the 18th to 21st of December, and at San Ignacio in January. It is common at Valparaiso in November and December, and has been taken at Talcahuano and at Valdivia. The specimens in the British Museum from this locality are smaller than mine but not otherwise different. As I think Blanchard's figure of this species is unmistakable I adopt his name.

8. *Epinephele monachus*.

Satyrus monachus, Blanchard, *t. c.*, p. 35.

Epinephele valdivia, Felder, *t. c.*, p. 493.

Pedaliodes lugubris, Butler, Cist. Ent., i, p. 25 (1870).

Stibomorpha monachus, *id.*, Lep. Exot., p. 179,
Pl. XIII, fig. 2 (1874); Reed, *t. c.*, Pl. II, fig. 5,
and explic. de las laminas, lam. ii, figs. 5, 6.

Satyrus luctuosus, Reed, *t. c.*, Pl. II, fig. 6 ♀.

This species was very abundant in the heavy virgin forest south of Temuco, where it was fresh out on January 10th. It was also very abundant amongst the dense bamboo undergrowth in the Upper Renaico Valley at 3500 feet at the end of January, and was common in similar forest on Lake Quillen and at Port Blest in the middle of February, when it seemed to be nearly over. I cannot distinguish the insect which Reed figures badly under the name of *luctuosus*. I have compared the type of *valdivia*, Feld., with my specimens from Temuco, and believe it to be identical.

9. *Epinephele tristis*.

? *Satyrus tristis*, Guérin, Voy. Coq., p. 281.

? *Argynnis tristis*, *id.*, *t. c.*, Atlas. Ins., Pl. XVI, fig. 5
(1832).

? *Epinephele coctei*, Reed, *t. c.*, expl. de las laminas, lam.
iii, fig. 3 ♀.

? *S. pales*, Philippi, *t. c.*, p. 268.

Guérin's figure being, like his description, very bad, there is much confusion as to the synonymy of this species, which being a common insect in all the low country varies a good deal in size and in the markings on both sides. I recognize two allied species only, of which this is the larger. It was common amongst bushes at Baños de Cauquenes on December 15th and up to about 3000 feet; also amongst bushes at San Rosendo on the lower Biobio on January 5th. I found it nearly over at Llai-llai on January 1st, and took a single female at over 4000 feet in the Chillan Valley on December 22nd.

10. *Epinephele coctei*.

E. coctei, Guérin, *t. c.*, *id.*, Mag. de Zool. Ins., Pl. XI
(1839).

Erebia coctei, Westwood, *t. c.*, p. 380.

? *Epinephele coctei*, Butler, Cat. Sat., p. 68 (1868);

- ? *Satyrus tragiscus*, Reed, *t. c.*, Pl. III, fig. 3.

Guérin's figure of this species is I think unmistakable. It is a smaller species than the last, and probably distinct, though it may be only a mountain form of it. I did not find it anywhere in the low country, but first saw it abundantly flying among the scrubby bushes and grass tufts in the Upper Biobio Valley above Lonquimay on January 28th. From here as far south as the Rio Limay it was common on suitable ground from 2000 up to about 4000 feet. The males are always, when fresh, darker than the last, and the under-side is less variegated, but I can find no distinction that I could consider specific between the two. The only specimen I find in the British Museum marked *coctei* is a female from Talcahuano sent by Edmonds; Butler says he thinks this is only a dwarfed form of *tristis*.

11. *Neomænas cœnonymphina*.

N. cœnonymphina, Butler, Trans. Ent. Soc. Lond.,
1881, p. 454, Pl. XXI, fig. 4.

This is a species somewhat like the last above, but perfectly distinct by the broad pale band on the hind-wing below, and on both wings in the female above, which Butler's figure does not well show. According to Edmonds it is local at Valparaiso. I did not take it myself.

12. *Neomœnas fractifascia*.

N. fractifascia, Butler, *t. c.*, p. 455, Pl. XXI, fig. 3.

A very distinct species which I found scarce at San Martin, near Lake Quillen, and in the forest at Port Blest in February. It frequents open places in the forest, and was also taken by Edmonds near the Baths of Chillan in March. The female has much more red on both wings above, but both sexes vary in this respect.

13. *Neomœnas servilia*.

N. servilia, Wallengren, Kon. Vet. Akad. Förh., p. 78 (1858); *id.*, Wien, Ent. Mon., iv, p. 36 (1860); *id.*, Eug. Resa, p. 354, Pl. VI, fig. 1 ♂ (1861).

Stibomorpha decorata, Butler, Ent. Mo. Mag., x, p. 205 (1874); *id.*, Lep. Exot., p. 179, Pl. LXII, fig. 3 ♀ (1874).

I took one only at Cauquenes. It is not uncommon at Valparaiso and elsewhere, and frequents bushy uncultivated ground, but is not, I think, found in the forest region.

14. *Neomœnas wallengrenii*.

N. wallengrenii, Butler, Trans. Ent. Soc. Lond., 1881, p. 456, Pl. XXI, fig. 5.

A rare species, which seems distinct from the last, and is represented in the British Museum by two bad specimens taken by Edmonds in the woods below the Baths of Chillan in March. I did not find it myself.

15. *Neomœnas ? inornata*, n. sp. (Plate XIV, figs. 1 ♂, 2 ♀)

This species seems to be most nearly allied to *servilia*, Wall., with which it agrees in size and shape, but it is darker in colour above and has the under-side of the fore-wing in both sexes of a deeper rufous colour. The hind-wing below is perfectly plain olive-grey with a darker marginal line. The female has on the fore-wing above an indistinct black ocellus, and both sexes have on the fore-wing below an

ocellus like that of *sevilia*. As in that species there is no sexual patch on the fore-wing of the male. It is also somewhat like *Argyrophenga simplex*, Butler, but larger and much more rufous above, and has the hind-wings of a different shape. I can find no described species to which it can be referred in any collection. I took two males and one female at the Baños de Cauquenes on December 15th, flying on a bushy hillside above the Baths and settling on low trees.

16. *Neomænas* ? *edmondsii*.

Argyrophenga edmondsii, Butl., *t. c.*, p. 457, Pl. XXI, fig. 6.

I know this only from the very bad specimen in the British Museum which Edmonds took in March 1880 in woods below the Baths of Chillan.

17. *Neomænas* ? *humilis*.

Stygnus humilis, Felder, *t. c.*, p. 489.

Butler identifies as above a distinct species with the same markings as *ambiorix*, but the ocelli much smaller and fainter. It can be distinguished, however, I think from *ambiorix*, certainly by the absence of any chocolate colour in the fore-wing below, and by the rounder and less pointed fore-wings. Edmonds found it common in woods near Valdivia. I only took two or three males in forest at Quillen and near Lake Aluminé at about 3000 feet; these agree with Edmonds' specimens, which I have compared with Felder's type and find identical.

18. *Cosmosatyrus leptoncuroides*. (Plate XV, figs. 3 ♂, 4 ♀, 6 ♀.)

Cosmosatyrus leptoncuroides, Felder, *t. c.* p. 495, ♀.

Satyrus antarctica, Reed, *t. c.*, Pl. II, fig. 4.

Tetraphlebia germanii, *id.*, *t. c.*, explic. de las laminas, lam. ii, fig. 4.

? = *T. plumbeola*, Butler, Cat. Sat., p. 95, Pl. II, fig. 11 (1868).

I first took this species in the Renaico Valley at Maitenes, a farm of Mr. Bussey's, about 2500 feet elevation, when it was fresh out on January 24th, and common in grassy openings in the woods. Afterwards it

became abundant everywhere, and was generally distributed at elevations of 3000 to 5000 feet in all suitable situations. I have figured three specimens to show the great variation which exists in the species. The type of *leptoneuroïdes* is a very large male, and agrees well with my largest. Though at first I thought that the androconia on the male fore-wing of some specimens would distinguish them, yet on careful comparison of my very large series I am unable to separate what Butler calls *plumbeola*, which he thinks the mountain form of *leptoneuroïdes*. This, which is often smaller, was found by Edmonds at 6000 feet in January, but was not out when I left Chillan at the end of December. The species does not seem to occur in the low country or on the coast of Chile, as Reel says he has never seen it. It is probable that what he figures as *S. antarctica* is the same as *plumbeola* Butler, described from the Straits of Magellan, which however he does not allude to in his paper on Edmonds' collection. This is also found at Port Famine, and was placed with *plumbeola* in the British Museum by Butler. Staudinger also figures as *Erebica plumbeola*, var. *Duseni*, a variety of the same form from the Rio Aysen in S. Chile, showing that the species has a continuous distribution from about the latitude of 38° to the far south of Chile. From the figure of *Duseni* I do not see much to distinguish it, and it is to be hoped that the practice of giving varietal names to specimens of whose distribution and variation so little is known will not be adopted as largely by authors as it has been in the Holarctic Butterfly Fauna.

19. *Cosmosatyrus chiliensis*. (Plate XV, figs. 9 ♂, 10 ♀.)
Satyrus chiliensis, Guérin, *t. c.*, p. 280; Atlas, Ins.,
 Pl. XVI, figs. 4, 5 (1832).
Stibomorpha reedii, Butler, Lep. Exot., p. 180 (1874).

This is one of the common species of Chile which I first took in the Chillan Valley at about 3000 feet in December, when it was just coming out. Afterwards I found it on the coast near Coronel rather worn, and later it was common in the Renaico Valley at 2000 feet, and was found almost everywhere up to about 3000 to 4000 feet and as far south as Nahuelhuapi, where, however, the specimens show differences which might enable those from Argentina to be separated from those taken in Chile. In order to show these differences clearly, and

also how *chiliensis* can be separated from the next species, I have figured a male and female from the east side of Lake Nahuelhuapi, the farthest point south which I visited. These were flying on grassy pampas where the rainfall is very much less than in Chile and the snowfall and cold of winter much greater, and their markings show a good deal more resemblance to those of *monticolens*. It is possible that this form may prove distinct from *chiliensis*.

20. *Cosmosatyrus monticolens*. (Plate XV, figs. 7 ♂, 8 ♀.)
Satyrus monticolens Butler, Trans. Ent. Soc. Lond.,
 1881, p. 484, Pl. XXI, fig. 1.

I first found this at the head of the Lolco Valley on the road to Lonquimay, at about 5000 feet, and was at once certain from its flight that it was a species new to me. Instead of a slow short flight among bushes like that of *chiliensis*, it has a rapid straight flight of 20 to 50 yards backwards and forwards over wet subalpine meadows always amongst grass and stones, and was in consequence much harder to catch. It was afterwards found between the Aluminé Lake and Pulmari on similar ground at about 4500 feet, and also near San Martin on a mountain side at 6000 feet. It varies considerably, and I have figured a pair from Pulmari to show the differences between it and *chiliensis*. These agree fairly well with Butler's type, which came from the mountains above the Baths of Chillan, where it had not yet appeared at the end of December.

Cosmosatyrus williamsianus.

Arge williamsianus, Butler, Cat. Sat., p. 159, Pl. IV,
 fig. 1 (1868).

Encis antarcticus, Mabille, Nouv. Arch. Mus. (3), i,
 p. 142, Pl. X, figs. 5, 6.

The type of *williamsianus* in the British Museum is a female in bad condition from Port Famine, Patagonia, and has been compared with the type of *Encis antarcticus*, which appears to be identical. I believe that it is very nearly allied to, if not identical with, *monticolens*; the shape of the wings and the white veins on the hind-wing below being similar, and the difference not more than one might expect in the species when starved and dwarfed by an ungenial climate.

21. *Argyrophorus argenteus*.

A. argenteus, Blanchard, Fauna Chil., vii, p. 30.

Chionobas argenteus, *id.*, *t. c.*, Pl. II, figs. 9-11.

This is one of the most beautiful and unique butterflies in Chile, or I may say in the world, and as its habits are undescribed I will give an account of them, as I had ample opportunities of observing it. Though found at various places in the mountains it seems local. Mr. Calvert has taken it on the Campana Mountain near Quillota, and Edmonds says he took it near La Union in the province of Valdivia, but at what elevation he does not mention. I first found it in the Villacura Valley east of the Pemehue range at the end of January, where it was abundant at about 3000 feet on grassy hillsides and flats covered with long tufted herbage. In the morning when it first begins to move, and before the wind has become strong, it may be taken without much difficulty, though even then it is very shy. Later it flies in the sun with such rapidity that it is only by waiting in the line of flight that you can take them. The brilliance of the shining silvery wings of this butterfly make it a most beautiful and striking object when fresh, but they soon become worn and broken, and a very large proportion of those I took were not worth keeping. All along the upper valley of the Biobio and on the Argentine side of the frontier about Lake Aluminé I found it common up to about 4000 feet, always on the grassy hill-sides but never in the forest. It settles on the ground amongst tufts of grass, and the larva is no doubt a grass-feeder. It was common about San Martin and as far south as the valley of the Limay, and when I re-crossed the Andes at the end of February I saw one or two in the Aconcagua Valley at about 6000 feet elevation.

22. *Faunula stelligera*. (Plate XV, figs. 1 ♂, 2 ♀.)

F. stelligera, Butler, Trans. Ent. Soc. Lond., 1881, p. 460, Pl. XXI, fig. 10.

I found this species common on the grassy hill-sides and ridges above timber-line near the Baños de Chillan at 6000 to 7000 feet in December, when many specimens were already worn. The flight and habits are essentially like those of the Alpine grass Erebias, and as it never occurs far from the dwarfed form of "colihue" (a bamboo-grass very like the Arundinarias of the Himalayas) which covers large areas of these mountain-sides, I have little

doubt that the larvæ feed on this plant. The specimens taken here average much larger than those which I afterwards found abundant in January and February above Lolco and near Pulmari, Quillen, and San Martin in Argentina, always at elevations of 4000 to 6000 feet. They vary a great deal, and some do not show as plainly as others the toothed band on the hind-wing below which is characteristic of the species, though Butler's figure does not show it. I have figured a pair from Lolco.

23. *Faunula leucoglene*. (Plate XIV, fig. 6 ♂.)

F. leucoglene, Felder, *t. c.*, p. 488.

This is essentially a high Alpine species, which I only took myself on the top of the pass from Lolco to Lonquimay on January 27th at 8000 feet. Here it flew among stones in a very exposed situation among a rich variety of Alpine plants, sheltering itself from the high wind behind stones, and so difficult to approach that in an hour's work I only took one pair. It also occurs in the Cordillera near Santiago at Condes, at 6000 feet according to Calvert, at 7000 to 10,000 according to Edmonds.

This species is curiously similar in appearance to *Erebiola butleri*, an Alpine species from New Zealand.

I saw a butterfly which looked like this on the Argentine side of the Mendoza Pass near Las Cuevas, at about 10,000 feet, but failed to catch it.

24. *Neosatyrus ambiorix*.

N. ambiorix, Wallengren, Wien. Ent. Mon., iv, p. 36 (1860); *id.*, Eug. Resa, Pl. VI, fig. 2 (1861).

? *N. minimus*, Butler, Trans. Ent. Soc. Lond., 1881, p. 461, Pl. XXI, fig. 7.

This is a common forest insect wherever dense growth of bamboos is found, and usually occurs in great numbers, though hard to get in really fresh condition. I found it at Baños de Cauquenes and Baños de Chillan up to 6000 feet in December, in the Pemehue Mountains at the head of the Renaico Valley in January, and all along the Argentine frontier at 3000 to 4000 feet in February. Both sexes vary a good deal in the ocelli of the under-side, and those taken at Cauquenes may belong to a different form from those taken in Argentina and Pemehue, the males when fresh having a distinct fulvous tinge at the base of the wings above which is not seen in those from Pemehue

and Argentina. The females also of the Cauquenes form are brighter-coloured above, much more yellow below, and with larger ocelli. *N. minimus* appears to be a small starved variety of doubtful origin, and impossible to describe from the specimen which is in the British Museum collection.

25. *Neosatyrus*? *simplex*.

Argyrophenga simplex, Butler, Trans. Ent. Soc. Lond., 1881, p. 458.

Specimens of this agree with Butler's type in the British Museum taken by Edmonds above the Baths of Chillan in March. I found it only in one place in a grassy valley at about 5000 feet on the road from Lolco to Lonquimay on January 27th. I took six or seven males all in the same place which vary a good deal, most of them being without the white dash on the hind-wing below which exists in the type. It flies among the low bushes like an *Epinephele*, and should be placed, I think, near *Neosatyrus ambiorix*, which it resembles in form and flight.

26. *Neosatyrus vesagus*. (Plate XIV, figs. 9 ♂, 10 ♀.)

Erebia vesagus, Doubleday and Hewitson, Gen. Diurn. Lep., Pl. XLIV, fig. 2 (1851).

Homonympha pusilla, Felder, *t. c.*, p. 487.

Neosatyrus ochrevittatus, Butler, Trans. Ent. Soc. Lond., 1881, p. 462.

N. violaceus, *id.*, *t. c.*, p. 463, Plate XXI, fig. 8.

? *N. hahni*, Mabille, Miss. Cap. Horn. Lep., p. 3, Pl. I, fig. 3.

? *Erebia boisduvalii*, Blanchard, *t. c.*, p. 32.

I am by no means sure of the above synonymy, as the specimens before me vary a good deal and may belong to two species.

First I have the type of *vesagus* in the Hewitson collection from South America, which is undoubtedly the same as *violaceus* and *ochrevittatus*, of which the types from Chillan and Chile are in the British Museum. Also a pair of the same from Valparaiso (Walker) in Mr. Godman's collection; and a pair which I took at Coronel on December 19th, in which the bands of the hind-wing below are less distinct. Then I have a pair which I took near the Baths of Chillan where Edmonds got the type of *violaceus*; these, though otherwise very like *vesagus*, have a distinct marginal band

of spots on hind-wing below, and seem to agree very nearly with Felder's type of *pusilla*. I have figured these as none of the figures cited are satisfactory.

Then I have what seems a smaller species which has the bands less distinct and the spots more so, which Butler calls *boisduvalii*, and of which two males and a female are in Mr. Godman's collection from Concepcion (Walker) close to Coronel, where I took the larger form above-mentioned.* Then I have a single male from some part of Chile which comes very near the figure of *Hahnii* from Punta Arenas, which looks like, and probably is, a starved southern form of the same. Until we get much more ample material from intermediate localities in the south the specific identity of these forms must remain undecided.

27. *Neosatyrus nycteropus*. (Plate XIV, figs. 7 ♂, 8 ♀.)

Neosatyrus nycteropus, Reed, *t. c.*, Plate III, fig. 2.

I can find no other name for or description of this species. What Reed speaks of in the explanation of the plates as *Hipparchia boisduvalii* is the same, but that name cannot be identified certainly, and the figure Reed gives of the under-side cannot I think be mistaken for that of any other species. I can distinguish this from all others in Chile known to me, by the distinct scalloped band on the hind-wing below outwardly edged with white, in which *Neosatyrus hahnii*, which I have referred to *vesagus*, resembles it more than any other. On the upper-side both sexes usually (but not always the male) have a fulvous submarginal band on the hind-wing above not reaching either the costa or inner margin of the wing.

I know this insect from two pairs taken at Coquimbo by Walker in Collection Goduan, a male and female given me by Mr. Paulsen of Quillota, and three males which I took on the scrubby hill-sides near Llai-llai on January 1st. It seems, therefore, to be confined to the coast region of Central Chile.

28. *Neosatyrus reedii*.

N. reedii, Butler, Trans. Ent. Soc. Lond., 1881, p. 463, Pl. XXI, fig. 9, var. *fuscoseens*, *id.*, *t. c.*, p. 485.

This is a distinct species, which I did not take. It was

* What Blanchard called *Boisduvalii* came from the Straits of Magellan and is probably same as *Hahnii*, but I cannot recognize it by the description.

described by Butler from Reed's collection without definite locality, and is distinguished by the broad pale band on hind-wing below. The figure of *Janiroides* in Gay's plate (Fauna Chilena, Pl. III, fig. 2), which Butler gives as a synonym, is I think impossible to identify.

29. *Tetrapteria germanii*. (Plate XV, fig. 5 ♂.)
T. germanii, Felder, *t. c.*, p. 488.
Satyris promaucana, Reed, *t. c.*, Plate III, fig. 5.

I took the male of this in the woods below Chillan at about 4000 feet at the end of December, and a single worn female in the Villacura Valley at 3000 feet on January 25th. It is a very distinct species. Reed says that it is not scarce in the central provinces, but specimens are rare in collections.

NYMPHALIDÆ.

30. *Euptoicta hortensia*.
Argynnis hortensia, Blanchard, *t. c.*, p. 24.

This species does not seem common anywhere, but I took specimens at Quillota, San Rosendo, and San Iguacio in January.

31. *Argynnis cytheris*.
Papilio cytheris, Drury, Ill. Exot. Ent., ii, Pl. IV, figs.
 3, 4 (1773).
Argynnis siga, Hübner, Zutr. Exot. Schmett, figs. 677,
 678 (1832).

One of the commonest butterflies all over the country, and found from the sea-level up to at least 7000 to 8000 feet near the Baths of Chillan. It extends from about Copiapo in the north to as far south as the Straits of Magellan; and though it has several synonyms I cannot distinguish any marked local varieties, except perhaps the one found in the Falkland Islands. The largest and palest I have is a female from 7000 feet elevation taken above timberline at Chillan, though probably it was bred in the valley below. The smallest are those from the low forest country near Mulchen and Tolten, though Edmonds says the contrary is the case. It occurred in Argentina as far south as Nahuelhuapi.

32. *Argynnis lathonoides*.
A. lathonoides, Blanchard, *t. c.*, p. 22, Pl. II, figs. 1, 2.

? *A. anna*, *id.*, *t. c.*, p. 23.

! *A. decamene*, Boisduval, Bull. Ent. Soc. Fr., 1859,
p. 157.

The only place where I took this species was in the Horcones Valley near Puente del Inca in Argentine territory at about 10,000 feet, on December 12th, 1901, where it was not uncommon. Most of my specimens were lost, but Fitzgerald took one probably in the same locality, now in the British Museum, and Edmonds found it in the mountains above the Baths of Cauquenes at 6000 feet in January. It is very rare in collections, and the females might easily be mistaken for pale examples of the same sex of *cytheris*. The male, however, is very unlike the male of that species and very similar to its own female. It seems to be a true mountain species confined to the northern parts of the country, and perfectly distinct from either *cytheris* or *modesta*.

33. *Argynnis modesta*.

A. modesta, Blanchard, *t. c.*, p. 24, Pl. II, figs. 3, 4.

I found this first above the Baños de Chillan at 7000 to 8000 feet on bare stony ridges above timber-line. Here it was very hard to take, as it flew very fast and quite close to the ground, and was also very shy. I spent at least an hour in securing two specimens, though they kept returning to the same spots on little bare sandy places close to the peaks but a little sheltered from the high wind. I did not take the female, but have one from Edmonds, who found it in the same place as the last but 2000 to 4000 feet higher up. I also saw it and caught one specimen in Argentine territory near Lake Aluminé at about 5000 feet on January 30th. It froze hard the previous night in our camp but was very hot in the afternoon.

34. *Pyrameis carye*.

Hamadryas decora carye, Hübner, Samml. Exot. Schmett, i, Pl. XLV (1806).

Common in the low country, but not found by me in the mountains.

35. *Pyrameis terpsichore*.

Vanessa terpsichore, Philippi, Lin. Ent., xiv, p. 266 (1860).

Taken at San Rosendo, San Ignacio, Lolco, and on Lake Llanquihue in December, January, and February, and at San Martin in Argentina up to about 3000 feet.

LYCÆNIDÆ.

36. *Scolitantides collina*.

Lycæna collina, Philippi, *t. c.*, p. 270.

L. lyrnessa, Hewitson, Ent. Mo. Mag., xi, p. 107 (1874).

? *Scolitantides plumbea*, Butler, Trans. Ent. Soc. Lond., 1881, p. 486.

This belongs to a group which is represented in the Andes of Bolivia by *S. speciosa*, Stgr., in Peru by *vapa*, Stgr., and in Ecuador by an unnamed species of which there are specimens in the British Museum. I am uncertain whether *plumbea*, Butler, is identical; Edmonds thought it was only a variety, and though the type is larger and duller in tint, I find no character in it to enable me to say decisively. I took a single specimen exactly like the type of *plumbea*, but am uncertain of the locality. I found the species very abundant at 5000 to 6000 feet near the Baths of Chillan in December, and also took it in the Sierra de Pemehue in January. It frequents bushy ground and also the bare ridges above timber-line. Philippi says he took it on the hills near Santiago.

37. *Scolitantides andina*.

S. andina, Calvert, An. Univ. Chile, xxxiv, p. 832 (1894).

? *Lycæna endymion*, Blanchard, *t. c.*, p. 37, Pl. III, fig. 3 a, b.

I cannot identify this species with certainty, as, if Blanchard's plate is correct, the under-side is different from that of Calvert's species which I know from two females sent by him to the British Museum, where they stood without name. I found the same species common near Puente del Inca on December 11th, flying on bare ground among grass tufts at about 9500 feet near the entrance to the Horcones Valley. It differs from *collina* in the colour above, which is more greenish in the male and grey in the female. Beneath the markings are very like those of *collina*, but the female has no red on the under or upper surface of

the wings. Calvert's species was taken near Condes above Santiago at 3000 metres elevation.

Endymion is said by Blanchard to come from Coquimbo.

It appears that Kirby in Cat. Diur. Lep., p. 377, gave the name of *Sibylla* to Blanchard's figure, because the name *endymion* was pre-occupied. I prefer to use the name of *andina*.

38. *Scolitantides chilensis*.

Lycæna chilensis, Blanchard, *t. c.*, p. 37, Pl. III, fig. 4
a, b.

? *Polyommatus atahualpa*, Wallengren, Wien. Ent.
Mon., iv, p. 37 (1860).

I found this species common at Baños de Cauquenes in December. It is also found, according to Edmonds, at Valparaiso and Copiapo.

39. *Lampides trigemmatas*.

L. trigemmatas, Butler, Trans. Ent. Soc. Lond., 1881,
p. 468.

This species seems to be peculiar to the north of Chile. Besides the types in the British Museum there are four specimens from Tarapaca. It is nearly allied to *L. telicanus* of Europe.

40. *Thecla bicolor*.

Lycæna? *bicolor*, Philippi, *t. c.*, p. 269.

♀ *Thecla quadrimaculata* ♂, Hewitson, Ent. Mo. Mag.,
xi, p. 106 (1874).

I am not convinced of the specific distinction of this species from the next; it may be a mountain form of it. The only specimen I have is labelled Puente del Inca, but I am inclined to think that this label has been misplaced. The specimen is smaller, and on the under-side somewhat different from *quadrimaculata*. The males of both forms have a large sexual patch in the fore-wing, which has led Butler to put them in the genus *Callipsyche*, Scudd. The type was taken near Santiago.

41. *Thecla quadrimaculata*.

♀ *T. quadrimaculata*, Hewitson, *l. c.*

Hewitson appears also to have doubted the distinctness of this from the last, as he has put the female type as the

male of *bicolor*. I took two males of what Butler calls *quadrifasciata* at Coronel and one at Baños de Cauquenes, both at low elevations.

42. *Strymon americanis*.

Thecla americanis, Blanchard, *t. c.*, p. 38.

I took a pair on the road up to the Baths of Chillan at about 2000 feet on December 20th, and found it also near Temuco and at San Ignacio in January. Edmonds took it at Valparaiso, Valdivia and Cauquenes. The male has the same sexual patch as *bicolor*, with which I think it is congeneric.

PIERIDÆ.

43. *Heliochroma leucotheca*.

Papilio (D.) leucotheca, Molina, Saggio sulla Storia Naturale del Chili, libr. iv, p. 347 (1782).

Pieris gayi, Blanchard, *t. c.*, p. 10, Pl. I, fig. 4.

Though Edmonds says this is common in the Cordillera of the Cauquenes hacienda in January, I was informed by M. Germain, the veteran entomologist of the Museum at Santiago, who knows the insects of Chile very well though he has never written on the Lepidoptera, that the species was confined to the coast, where it comes out early in spring. I only saw it near Coronel in December flying among bushes where I was unable to take it.

44. *Terias chilensis*.

T. chilensis, Blanchard, *t. c.*, p. 17, Pl. I, fig. 5 a, b.

I only saw it near Llai-llai on January 1st in irrigated fields. It seems to be common at low elevations.

45. *Callidryas drya*.

Papilio drya, Fabricius, Syst. Ent., p. 478 (1775).

Callidryas drya, Butler, Lep. Exot., p. 61, Pl. XXIII, figs. 5-8 (1871).

C. amphitrite, Blanchard, *t. c.*, p. 20, Pl. V, figs. 1, 2.

A few were seen in the lower part of the Aconcagua Valley. Edmonds says it is common at Valparaiso and is found at Copiapo, and occurs almost throughout the year. He found the larva on Cassia.

46. *Colias lesbia*.

Papilio lesbia, Fabricius, *t. c.*, p. 477.

This was abundant and very variable at Buenos Ayres, and was found as high as 9000 feet near Puente del Inca. I also took a single albino female on the Chilean side of the pass at about 9000 feet on December 18th. I cannot find that the species has been recorded previously west of the Andes, and I did not find it anywhere in Argentina along the frontier.

47. *Colias vauthieri*.

C. vauthieri, Guérin, Voy. de la Coquille, Pl. XV, fig. 2 (1829).

♂ *C. rutilans*, Boisduval, Sp. Gen. Lep., p. 642, Pl. XIX, fig. 3 (1836).

C. minuscula, Butler, Trans. Ent. Soc. Lond., 1881, p. 470, Pl. XXI, fig. 11.

C. cunninghami, *id.*, *t. c.*, p. 471.

Very abundant everywhere in Chile and in Argentina along the frontier from sea-level up to 8000 feet and probably higher. Extremely variable in size and in the colour and markings of the female; of which, however, I have never seen an orange form. I could not see that climate had any influence on the species, those from the cold and windy plains about Lake Nahuelhuapi being as large and bright as those from the damp warm forest near Temuco.

The spring brood, however (*minuscula*, Butl.), which I did not find, is small, and has a narrower black border on both wings, and *Cunninghami*, Butl., is a narrow-winged southern form from Sandy Point.

48. ? *Colias euzanthe*.

Colias euzanthe, Feld., Reise Nov. Lep., ii, p. 196 (1865).

I took what I believe to be this species in the Horcones Valley near Puente del Inca at about 10,000 feet on December 12th, but the specimens were unfortunately lost on the road when starting for Chile, and I have never been able to recover the bag which contained them. As it is a native of the mountains of Bolivia and Peru, there is nothing improbable in its extending southwards.

49. *Phulia nymphula*.

Pieris nymphula, Blanchard, *t. c.*, p. 14, Pl. I, fig. 3
a, b.

? *Phulia nymphæa*, Staudinger, *Iris*, vii, p. 49 (1894).

Taken near Puente del Inca in the Horcones Valley at 10,000 feet on December 11th, and on the pass in February at 11,000 feet. Chilean specimens are somewhat larger than those in the British Museum taken in Bolivia by Sir M. Conway, and what Staudinger describes as *nymphæa* seems inseparable.

50. *Tatochila autodice*. (Plate XII, figs. 1—4.)

♂ ♀ *Synchloe autodice*, Hübner, *Samml. Ex. Schmett.*, ii, Pl. CXXVII, 1—4 (1816).

♀ *Pontia mercedis*, Eschscholtz, *Kotzebue's Reise*, iii, p. 215, Pl. IX, figs. 22 a, b—36 (1821).

var. ? *Pieris microdice*, Blanchard, *t. c.*, p. 14. (Plate XII, figs. 5, 6.)

I have had great difficulty in naming the *Tatochilas* I found in Chile on account of their variation, and because Blanchard has described three forms without figures which I cannot identify certainly.

The first is a well-known species which occurs all over Argentina and Chile, and is known as *autodice*, Hübner. This I took near Buenos Ayres. When I crossed the pass into Chile, I saw flying on the head of the valley at about 9000 feet a small silvery form, of which I have figured a ♂ on Plate XII, fig. 5. This had a rapid flight and appears to be distinct, and to be what Blanchard called *microdice*. I could not find the female here, but two months later found what I think is the same species fairly common at 4000 feet and upwards on the Argentine frontier near Lake Aluminé, and as far south as Lake Nahuelhuapi. Of these I have figured a female from Lake Quillen, fig. 2, one from Nahuelhuapi, fig. 6, and one from the Sierra de Pemehue, in Chile, fig. 1. A male from Pulmari is like the figure which Mabille calls *theodice* in *Miss. Cap. Horn Lep.*, xi, fig. 2.

51. *Tatochila demodice*. (Plate XII, figs. 7 ♂, 8 ♀.)

? *Pieris demodice*, Blanchard, *t. c.*, p. 13.

Tatochila argyrodice, Staudinger, *Hamb. Magal. Sammelreise Lep.*, p. 14, fig. 11 (1899).

? *Pieris theodice*, Boisduval, *Voy. Astr. Lep.*, p. 51 (1832), ♀ dimorph. apud Staudinger, *l. c.*

This species was common at Baños de Cauquenes in December, in the Pemehue range in January, and down south as far as Nahuelhuapi in February, practically at all the localities where I found the last species. I have figured a pair from San Martiu, Pl. XII, figs. 7 ♂, 8 ♀. What I take to be a form of the same species is found as far south as the Straits of Magellan, where it is known as *argyrodice*, Stgr. Of this I have figured a pair (Pl. XII, figs. 9 ♂, 10 ♀) taken by Walker at Punta Arenas. These are probably if not certainly the same as what Staudinger calls *theodice*, Bdv., of which he makes *demodice*, Blanch., a synonym, but a large series are necessary to understand the variation of this species.

52. *Tatochila theodice*.

Pieris theodice, Blanchard, *t. c.*, p. 12, Pl. I, fig. 1 *a, b*.

Tatochila blanchardii, Butler, Trans. Ent. Soc. Lond., 1881, p. 472, Pl. XXI, fig. 15.

Lastly we have a species which is perhaps a second brood of one or the other species usually identified with *theodice*, Blanch. (*nee* Bdv.) = *Blanchardii*, Butl.

This is easily distinguished by the double bar at the end of the cell, and extends from as far north as Islay in Peru to about lat. 38°, where I took it at San Ignacio in January. It seems to be common at Valparaiso, and is in Mr. Godman's collection from Valdivia. *Xanthodice*, Lucas, is another mountain species which is common in Ecuador and Bolivia, but has not been found in Chile, though Mabille figures under this name in the Miss. du Cap. Horn. Lep., Pl. I, fig. 1, a species which appears to me very near *argyrodice*, Stgr.

PAPILLIONIDÆ.

53. *Papilio bias*.

P. bias, Roger, Bull. Soc. Linn. Bord., i (1826).

I saw this in the Botanical Gardens at Santiago, but not elsewhere, though Edmonds records it as common at Valparaiso in successive broods from October to June.

HESPERIIDÆ.

54. *Hesperia fusca*. (Plate XIII, figs. 1 ♂, 2 ♀.)

H. fusca, Reed, Mon. Marip. Chil., p. 81 (1877).

This was common near Lolco in one place at the confluence of the Lolco with the Biobio river at about 2500

feet. It seems a rare species, but I have a pair from Copiapo, and Reed says it occurs in the province of Valdivia. The male figured is from Lolco and the female from Copiapo.

55. *Hesperia americanus*.

Syrichthys americanus, Blanchard, *t. c.*, p. 44, Pl. III, fig. 10.

I took this at the Baths of Cauquenes and at Coronel, but it does not seem common anywhere.

56. *Hesperia fulvovittatus*.

Pyrgus fulvovittatus, Butler, Trans. Ent. Soc. Lond., 1881, p. 475.

This was described from a single specimen in Edmonds' collection, locality unknown. There are some from Callao collected by Walker in the British Museum collection which seem very close, and it may not be a Chilean species.

57. *Hesperia trisignatus*. (Plate XIII, figs. 3 ♂, 4 ♀.)

Scelothrix trisignatus, Mabille, Bull. Ent. Soc. Fr., 1875, p. ccciv.

? *Hesperia notata*, var. *valdiviana*, Reed, *l. c.*, p. 81.

I took a single female at Quillota and another near Llai-llai on January 1st. Afterwards I found it abundant on a dry bushy plain below the Quillen lake in Argentina on February 2nd at about 3000 feet. Here it was flying about small bushes close to the ground. The male figured is from Quillen and the female from Quillota. There are specimens in the British Museum collection from Callao and Coquimbo taken by Walker.

A co-type of *valdiviana* in coll. British Museum looks like a variety of the same species but may be distinct.

58. *Hylephila fasciolata*. (Pl. XIII, fig 7 ♂.)

♂ *Hesperia fasciolata*, Blanchard, *t. c.*, p. 42, Pl. III, fig. 7.

♀ *H. signata*, id., *l. c.*

I am not sure that I took this myself, though I found a pair in one of my boxes without locality. It seems rarer than the next species, though Edmonds took it at Copiapo, Cauquenes, Valparaiso and Valdivia.

59. *Hylephila fulva*. (Plate XIII, figs. 5 ♂, 6 ♀, 8 ♀, var.)
Hesperia fulva, Blanchard, *t. c.*, p. 43, Pl. III, fig. 8.

I found this common in many places and have specimens from Coronel, Cauquenes, Llai-Llai, San Ignacio and Lolco. The female from the Renaico Valley (fig. 8) belongs to the form mentioned by Butler as being larger and with more markings than the other. The originals of figs. 5 and 6 are from Lolco.

The species comes near *phylæus*, Drury, which has a very wide range in America and extends as far south as Buenos Ayres. A specimen from thence in the British Museum seems very near *fulva*. Both these species frequent grassy places in the open.

60. *Argopteron aureipennis*.
Syrichthus aureipennis, Blanchard, *t. c.*, p. 40, Pl. III,
 figs. 5 *a*, 5 *b* and 6.

I took this in the dense forest on the shores of Lake Lacar near San Martin on February 8th, where it settles on the bamboo and has exactly the same habits as the next species. On the under-side the male is like *puelmæ*, but the female has the fore-wing below much more like *fruticolens*. The white spots on the under-side shown in Gay's fig. 5 *b* are not in my specimens, and as Gay says, "sin mancha alguna," I presume this is an error of the artist. I think I also saw this species at Puerto Blest on Nahuelhuapi, and Edmonds found it at Valdivia.

61. *Argopteron puelmæ*. (Plate XIII, figs. 11 ♂, 12 ♀.)
Cyclopides puelmæ, Calvert, Ent. Mo. Mag., xxv, p. 34
 (1888).

I found this beautiful species very abundant among the bamboo in the dense forest on the Pemehuc range at 3000 to 4000 feet between Maitenes and Chilpa on January 26th. The flight is quite peculiar, and the insect settles on bamboo leaves and also the orange flowers of *Alstromeria aurantiaca* in the sunny openings of the forest. It seems to represent *aureipennis* in the north, but has a limited range.*

62. *Butleria fruticolens*. (Plate XIII, figs. 9 ♂, 10 ♀.)
Cyclopides fruticolens, Butler, Trans. Ent. Soc. Lond.,
 1881, p. 477, Pl. XXI, fig. 12.

* It seems impossible to reproduce by chromo-lithography the shining gold of the under-side which makes this such a conspicuous insect when flying.

Stropes tripunctatus, Mabilie, C. R. Ent. Belg., xxxv, p. lxiv (1891).

I found this along the frontier at 3000 to 4000 feet in forest from the Pemehue range as far south as Puerto Blest. The female figured is from the latter locality and the male from Chilpa. It does not seem to vary in the mountains so much as on the coast, where Edmonds found it at Corral in March. Butler has described three varieties as *tractipennis*, *quadrinotatus* and *pulcher*, which differ in the number of spots on the upper-side and in other minor characters. In Mr. Godman's collection is a male from Chile marked "*tripunctatus* = type, Mab." This is described as coming from high mountains.

63. *Butleria philippii*.

Cyclopides philippii, Butler, *l. c.*, p. 479, Pl. XXI, fig. 13.

Very near the last but has an additional silver stripe on the hind-wings below which I have never found in *fruticolens*. I did not take this species, which occurs at Las Zonas in Valdivia.

64. ? *Butleria sotoi*.

Cyclopides sotoi, Reed, Mon. Mar. Chil., p. 86 (1877).

The only specimen of this in British Museum marked "type" seems distinct from either of the last by the yellowish colour at base of both wings below, and the presence of a spot on the hind-wing below. Reed took it in the hacienda of Cauquenes, but does not say at what elevation. I found a single worn specimen, which I believe is identical, in thick forest by the waterfall at Las Trancas, the last station below the Baths of Chillan, at about 4000 feet, on December 24th, but neither this nor the type are in good enough condition to figure.

65. *Butleria flavomaculatus*.

? *Syrichthys flavomaculatus*, Blanchard, *t. c.*, p. 44, Pl. III, fig. 9 a, b.

? *Butleria vicina*, Reed, *t. c.*, p. 88.

The next three or four species are nearly allied to each other, but I have not sufficient material to define them accurately, and their synonymy is doubtful.

What seems to agree best with Blanchard's plate is a

small species which I took on the edge of the forest at Lake Quillen, and which is distinguished from the others by the spots of the under-side being yellow and not white or silvery. This is in Mr. Godman's collection from Staudinger as *paniscoides*, Blanch. The description of this is not sufficient in my opinion to identify it by, or to separate it from *flavomaculatus* on the material before me.

66. *Butleria valdivianus*. (Plate XIII, figs. 15 ♂, 16 ♀, 17 ♂.)

Syrichthus valdivianus, Philippi, Linn. Ent., xiv, p. 272 (1860).

? *Carterocephalus exornatus*, Felder, Reise Nov. Lep., p. 521, Pl. LXXIV, figs. 18, 19 (1867).

? *Butleria paniscoides*, Reed, *t. c.*, p. 82.

I found this species common both in the Pemehue range at about 3000 feet, and in the marshy places on the edge of the forest at Quillen, from which locality I figure a pair (figs. 15 and 16). The original of fig. 17 is from Lolco. It varies extremely in the spots of the hind-wing below, which, however, seem to me to distinguish it from the last species by their silvery white colour, and from the next by the irregularity of the marginal series, which are sometimes faint or absent. On the inner and costal margins of the hind-wing below, these spots often coalesce into a streak; as is also sometimes the case in the next species. *Exornatus* is described as from Valparaiso.

67. *Butleria polyaspilus*. (Plate XIII, fig. 18 ♀.)

? *Carterocephalus polyaspilus*, Felder, Verh. Z. B. Wien., xii, p. 495 (1862).

I identify this with great doubt. In Mr. Godman's collection there are three specimens named *C. exornatus*, Feld. I am not certain whether it is distinct from the last, but have found it in much more open grassy places, and took it in the valley of the Trafal river in Argentine territory as well as at Quillen. The specimen figured is from the Trafal Valley.

68. *Butleria bissexguttatus*. (Plate XIII, figs. 13 ♂, 14 ♀.)

? *Steopes* (sic) *bissexguttatus*, Philippi, Linn. Ent., xiv, p. 272 (1860).

I found this first in the forest at Temuco on January 3rd, and afterwards at several places in the Pemehue range

and Argentina always in or close to the heavy forest. It is easily distinguished by the colour of the under-side from the allied species above. The specimens figured are from Chilpa.

69. *Thanaos funeralis*.

Nisoniades funeralis, Scudder and Burgess, Proc. Bost. Nat. Hist. Soc., xiii, p. 293, fig. 7 (1870).

Butler includes this on Edmonds' authority, but no locality is given for it, and I think the identification highly dubious. In the forest on the Pemehue range I am certain that I saw a Hesperiid belonging to this group, but did not succeed in taking it.

LIST OF CHILEAN BUTTERFLIES SHOWING THEIR DISTRIBUTION AND RANGE.

		NORTH.	CENTRAL.	SOUTH.	ELSE-WHERE.
SATYRIDÆ.					
1	<i>Elini lefebvrei</i> , Guér.....	...	× low	...	...
2	,, <i>vanessoides</i> , Blanch.....	...	× low	...	...
3	,, <i>neomyrioides</i> , Blanch.....	...	× middle	...	...
4	,, <i>calvertii</i> , n. s.....	...	× middle	...	...
5	<i>Pedaliodes flora</i> , Phil.....	...	× low	...	...
6	<i>Epinephele edmondsii</i> , Butl.....	...	× middle	...	Argentina
7	,, <i>janirioides</i> , Blanch.....	...	× low	...	...
8	,, <i>monachus</i> , Blanch.....	...	× low and middle	...	...
9	,, <i>tristis</i> , Guér.....	×	× low and middle	...	...
10	,, <i>coctei</i> , Guér.....	...	× low and middle	...	...
11	<i>Neomænas ecnonymphina</i> , Butl.....	...	× low	...	...
12	,, <i>fractifascia</i> , Butl.....	...	× middle	...	...
13	,, <i>servilia</i> , Wall.....	...	× low	...	...
14	,, <i>vallengrenii</i> , Butl.....	...	× middle	...	...
15	,, <i>inornata</i> , n. s.....	...	× low	...	...
16	,, <i>edmondsii</i> , Butl.....	...	× middle	...	...
17	,, <i>humilis</i> , Feld.....	...	× low and middle	×	...
18	<i>Cosmosatyrus leptoneuroides</i> , Feld.....	...	× middle	...	...
	,, var. <i>plumbicolus</i> , Butl.....	...	× middle	...	...
19	,, <i>chiliensis</i> , Guér.....	...	× low and middle	×	...
20	,, <i>monticolens</i> , Butl.....	...	× middle	...	...
	,, var. <i>williamsianus</i> , Butl.....	...	...	×	...
21	<i>Argyrophorus argenteus</i> , Blanch.....	× ?	× middle	...	...
22	<i>Faenula stelligera</i> , Butl.....	...	× middle	...	...
23	,, <i>leucoglene</i> , Feld.....	...	× high	...	...
24	<i>Neosatyrus ambiortæ</i> , Wall.....	...	× low and middle	...	...
25	,, <i>simplex</i> , Butl.....	...	× middle	...	...
26	,, <i>vesagus</i> , Doubl.....	...	× low	×	...
27	,, <i>nycteropus</i> , Reed.....	...	× low	...	...
28	,, <i>reedii</i> , Butl.....	...	× low	...	...
29	<i>Tetraphlebia germainii</i> , Feld.....	...	× middle	...	...

		NORTH.	CENTRAL.	SOUTH.	ELSE-WHERE.
NYMPHALIDÆ.					
30	<i>Euptoieta hortensia</i> , Blanch. ....	...	× low	...	...
31	<i>Argynnis cytheris</i> , Drury	×	× low and middle	×	f Falklands and { Magellan
32	„ <i>lathonioides</i> , Blanch. ...	...	× middle and high	...	...
33	„ <i>modesta</i> , Blanch. ....	...	× high	...	...
34	<i>Pyrameis carye</i> , Hübn.	×	× low	...	...
35	„ <i>terpsichore</i> , Phil. ....	...	× low and middle	...	...
LYCENIDÆ.					
36	<i>Scolitantides collina</i> , Phil. ....	...	× middle and high	...	...
37	„ <i>andina</i> , Calv. ....	...	× high	...	...
38	„ <i>chilensis</i> , Blanch. ....	...	× low	...	...
39	<i>Lampides trigeminatus</i> , Butl. ....	×	...	...	...
40	<i>Thecla bicolor</i> , Phil. ....	...	× middle ? high ?	...	...
41	„ <i>quadrimaculata</i> , Hew. ...	...	× low	...	...
42	<i>Strymon americensis</i> , Blanch. ....	...	× low	...	...
PIERIDÆ.					
43	<i>Heliochroma leucothea</i> , Mol. ....	...	× low	...	...
44	<i>Terias chilensis</i> , Blanch. ....	...	× low	...	...
45	<i>Callidryas drya</i> , Fabr.	×	× low	...	...
46	<i>Colias lesbia</i> , Fabr. ....	...	× high ?	...	...
47	„ <i>vauthieri</i> , Guér.	×	× low and middle	×	...
48	„ ? <i>euranthe</i> , Feld.	× ?	× high	...	Bolivia
49	<i>Phulia nymphula</i> , Blanch. ....	...	× high	...	do.
50	<i>Tatochila autodice</i> , Hübn. ....	...	× low and middle	...	Argentina
51	„ var. ? <i>microdice</i> , Blanch. ....	...	× high	×	...
52	„ <i>demodice</i> , Blanch. ....	...	× low and middle	×	...
52	„ <i>throdice</i> , Blanch. (<i>nec</i> Bdv.)	×	× low	...	...
PAPILIONIDÆ.					
53	<i>Papilio bias</i> , Roger .....	...	× low	...	...
HESPERIDÆ.					
54	<i>Hesperia fusca</i> , Reed.	×	× low and middle	...	...
55	„ <i>americanus</i> , Blanch. ...	...	× low	...	...
56	„ <i>fulvovittatus</i> , Butl. ....	× ?	× ?	...	...
57	„ <i>trisinatus</i> , Mab. ....	...	× low and middle	...	...
58	<i>Hylephila fasciolata</i> , Blanch. ....	...	× low	...	...
59	„ <i>fulva</i> , Blanch.	+ ?	× low and middle	...	...
60	<i>Argopteron aureipennis</i> , Blanch. ...	...	× middle	...	...
61	„ <i>puelmæ</i> , Calv. ....	...	× middle	...	...
62	<i>Butleria fruticolens</i> , Butl. ....	...	× middle	...	...
63	„ <i>philippii</i> , Butl. ....	...	× low	...	...
64	„ <i>sotoi</i> , Reed. ....	...	× middle	...	...
65	„ <i>flavomaculatus</i> , Blanch. ....	...	× middle	...	...
66	„ <i>valdivianus</i> , Phil. ....	...	× low and middle	...	...
67	„ ? <i>polyspitus</i> , Feld. ....	...	× low and middle	...	...
68	„ <i>bisserguttatus</i> , Phil. ....	...	× low and middle	...	...
69	? <i>Thanaos funeralis</i> , Scudd. ....	...	× ?	...	...

EXPLANATION OF PLATES XII—XV.

PLATE XII.

FIG. 1.	<i>Tatochila autodice</i> ,	♀,	Pemehue.
2.	„	♀,	Quillen.
3.	„	♂,	Cauquenes.
4.	„	♀,	„
5.	„	♂,	Above Juncal.
6.	„	♀,	Nahuelhuapi.
7.	„	♂,	San Martin.
8.	„	♀,	„
9.	„	♂,	Punta Arenas (Walker).
10.	„	♀,	„

PLATE XIII.

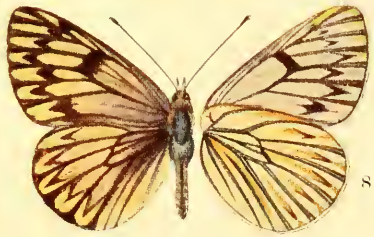
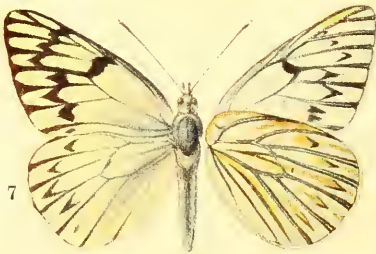
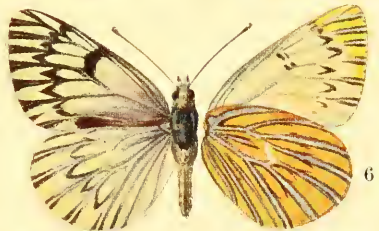
FIG. 1.	<i>Hesperia fusca</i> ,	♂,	Lolco.
2.	„	♀,	Copiapo.
3.	„	♂,	Quillen.
4.	„	♀,	Quillota.
5.	<i>Hylephila fulva</i> ,	♂,	Lolco.
6.	„	♀,	„
7.	„	♂,	Quillota or Cauquenes.
8.	„	♀,	Renaico.
9.	<i>Butleria fruticolens</i> ,	♀,	Port Blest.
10.	„	♂,	Chilpa.
11.	<i>Argopteron puelma</i> ,	♂,	„
12.	„	♀,	„
13.	<i>Butleria ? bissexguttatus</i> ,	♂,	Quillen.
14.	„	♀,	„
15.	„	♂,	„
16.	„	♀,	„
17. ?	„	♂,	Lolco.
18.	„	♀,	Traful.

PLATE XIV.

-
- FIG. 1. *Neomarnas* ? *inornata*, n. sp., ♂, Baños de Cauquenes.
 2. " " " " ♀, " " "
 3. *Elina calvertii*, n. sp., ♂, Baños de Chillan.
 4. " " " " ♀, " " "
 5. " *neomyrioides*, ♂, Chile Mus. Crowley.
 6. *Fannula leucoglène*, ♂, Lolco Pass.
 7. *Neosatyrus nycteropus*, ♂, Llai-llai.
 8. " " " " ♀, " "
 9. " *vesagus*, ♂, Baños de Chillan.
 10. " " " " ♀, " " "
-

PLATE XV.

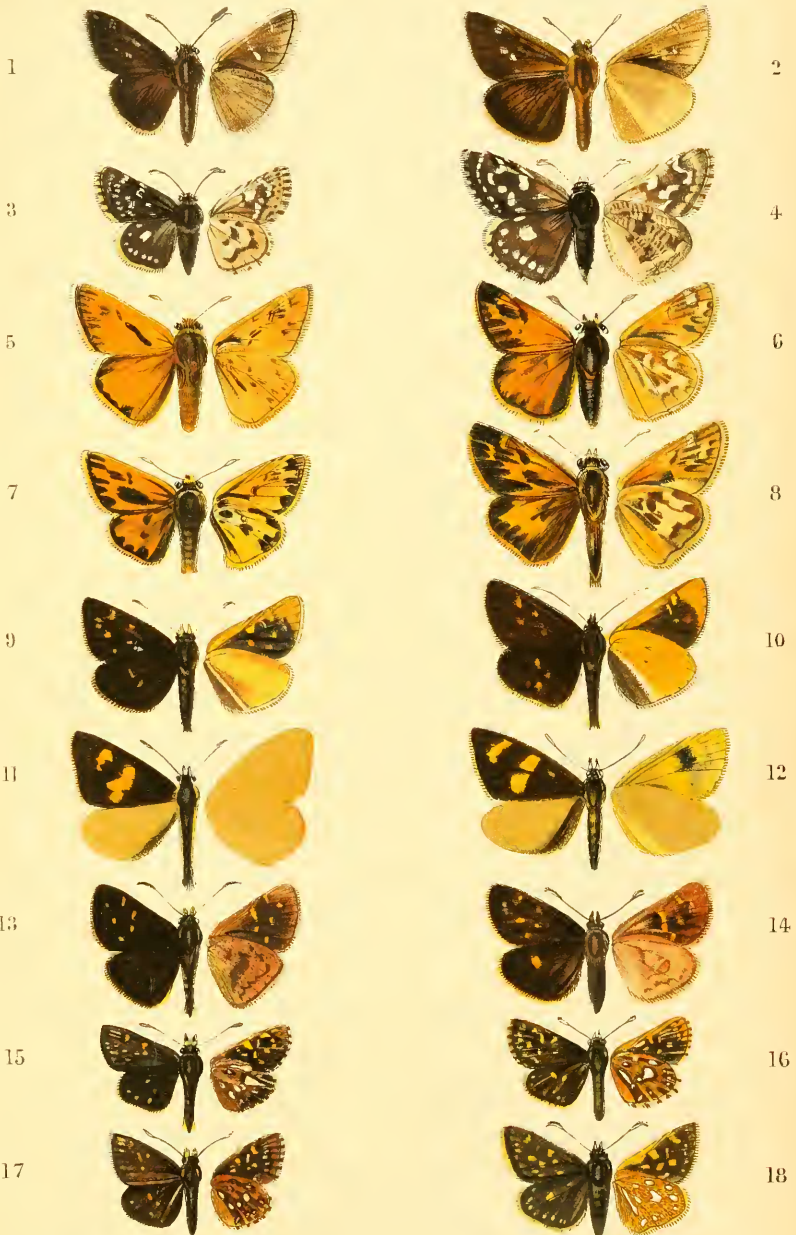
-
- FIG. 1. *Fannula stelligera*, ♂, Lolco.
 2. " " " " ♀, "
 3. *Cosmosatyrus leptoneuroides*, ♂, "
 4. " " " " ♀, Aluminé.
 6. " " " " ♀, Villacura Valley.
 5. *Tetraphlebia germainii*, ♂, Chillan Valley.
 7. *Cosmosatyrus monticolens*, ♂, Pulmari.
 8. " " " " ♀, "
 9. " *chiliensis*, ? var. ♂, Lake Nahuelhuapi.
 10. " " " " ♀, " "



Horace Knight, del.

André & Sleigh, Limited.

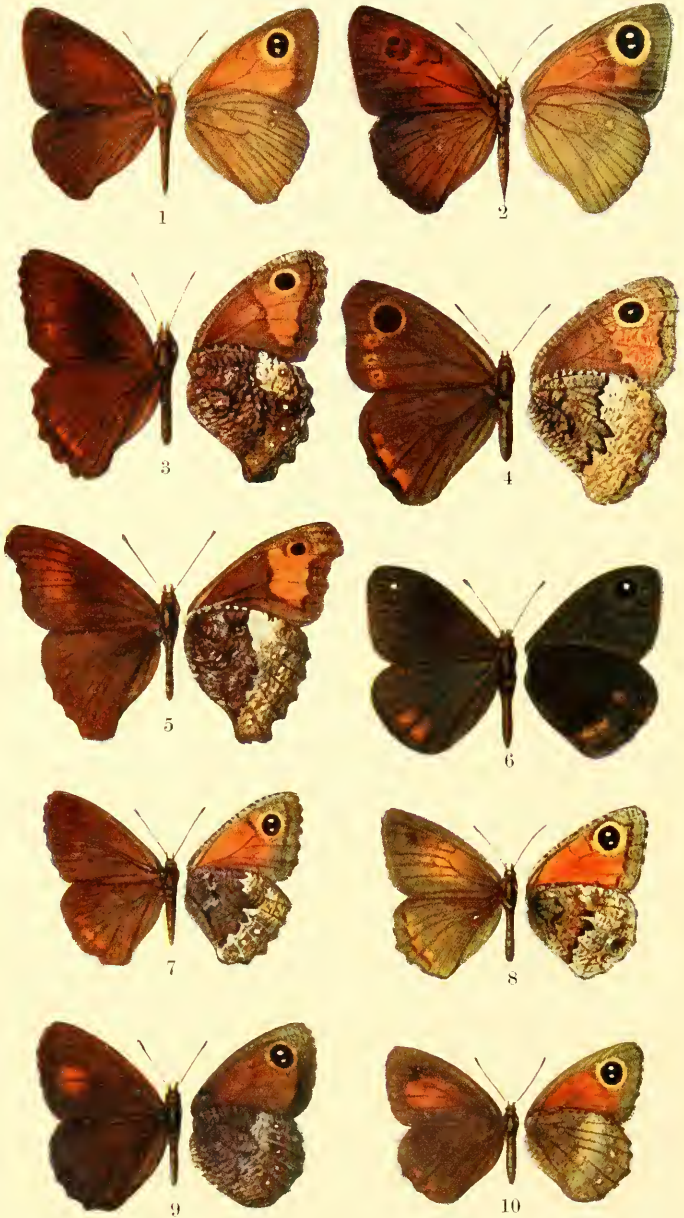
Chilean Butterflies.



Horace Knight del.

Mintern Bros. Chromo.

Chilean Butterflies.



Horace Knight, del.

André & Sleigh, Limited.

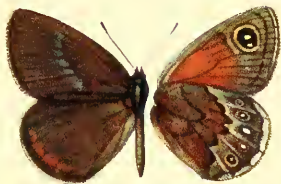
Chilean Butterflies.



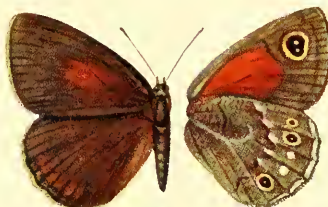
1



2



3



4



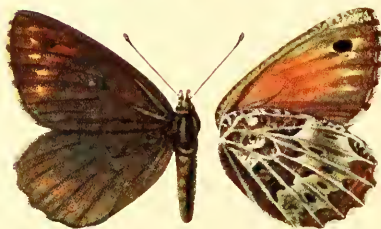
5



6



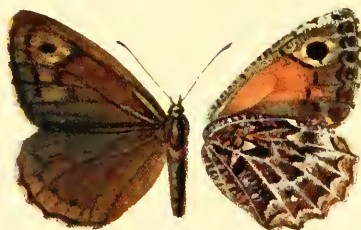
7



8



9



10